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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/769,039

01/30/2004

Mitsuo Shibutani

542-012.006

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06/05/2006

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EXAMINER

WU, IVES J

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/769,039

Applicant(s)

SHIBUTANI, MITSUO

Examiner

Ives Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

(1). Applicants' Remarks and Amendments filed on March 22, 2006 have been received and acknowledged.

Claim 7 is amended. Claim 11 is newly added.

The rejection of claims 1-10 in the prior Office Action dated December 20, 2005 is withdrawn in response to the Applicants' Remarks filed on March 22, 2006.

A new ground of rejections for claims 1-11 is introduced hereinafter.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(2). **Claims 1-4, 6-11** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitsuo (JP 08-269112).

As to dispersing agent of polyvinyl alcohol resin containing carbonyl groups in its molecule and having a block character of remaining fatty acid ester group of at least 0.5 in **independent claim 1**, Mitsuo discloses the dispersion stabilizer for suspension polymerization comprising a polyvinyl alcohol resin bearing carbonyl groups (Constitution, line 1-2). The polyvinyl alcohol resin contains a carbonyl groups more than 0.05 mol% and degree of saponification to be 65-98 mol% ([0011]). In view of the substantially identical polyvinyl alcohol disclosed by Mitsuo and by applicants, it is Examiner's position to believe that the polyvinyl alcohol of Mitsuo would inherently possess the block character of remaining fatty acid ester groups of at least 0.5. Since USPTO does not have proper means to conduct the experiments, the burden now is shifted to the applicants to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to the absorbance of at least 0.1 for wavelengths of 215 nm, 280 nm and 320 nm with respect to a 0.1 wt% aqueous solution of polyvinyl alcohol resin, wherein the ratio of absorbance at 320 nm to the absorbance at 280 nm to be at least 0.3 in **independent claim 1**, and ratio from 0.45 to 1.5 in **claim 11**, Mitsuo discloses preferably having ≥ 0.18 ultraviolet absorbance at wavelengths, 215nm, 280nm, 320nm when 0.1 wt% resin aqueous solution is used for measurement (Constitution, line 3-4). The absorbance in the wavelength 320nm is 0.520 for 0.1 wt% aqueous solution, the absorbance in the wavelength 280nm is 0.681 for 0.1 wt% aqueous solution ([0023]). Therefore, the ratio of 320nm:280nm absorbance is greater than 0.7.

As to the limitation of **claim 2**, Mitsuo discloses the absorbance in the wavelength 320nm being 0.520 for 0.1 wt% aqueous solution, the absorbance in the wavelength 280nm being 0.681 for 0.1 wt% aqueous solution ([0023]).

As to the limitation of **claims 3 and 4**, Mitsuo discloses sodium hydroxide ([0010]), line 5).

As to the limitation of **claim 6**, Mitsuo discloses the heat treatment to be at 120 – 180 °C and heat-treating by melting extrusion etc. is also possible ([0015], line 2,10).

As to the polyvinyl alcohol resin containing carbonyl groups and having a degree of hydrolysis of 65 to 98 mol% in **claim 7**, Mitsuo discloses the dispersion stabilizer for suspension polymerization comprising a polyvinyl alcohol resin bearing carbonyl groups (Constitution, line

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1-2). The polyvinyl alcohol resin contains a carbonyl groups more than 0.05 mol% and degree of saponification to be 65-98 mol% ([0011]).

As to the step feeding the polyvinyl alcohol into the extruder and melt-kneading resin at temperature 175 to 250 °C in process in **claim 7**, Mitsuo discloses the heat treatment to be at 120 – 180 °C and heat-treating by melting extrusion etc. is also possible ([0015], line 2,10).

As to the limitation of **claim 8**, Mitsuo discloses sodium hydroxide ([0010]), line 5).

As to the limitation of **claim 9**, in absence of showing the criticality of records, the optimization value of melt-kneading time from 1 to 15 min in a known process renders *prima facie obviousness* within one ordinary skills in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to limitation of **claim 10**, Mitsuo discloses degree of saponification to be 65-98 mol% ([0011]).

(3). **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuo (JP 08-269112) in view of Tokita (US006448321B1).

As to the metal salt of aliphatic carboxylic acid in the dispersant agent in the **dependent claim 5**, Mitsuo **teaches** the use of salt of aliphatic carboxylic acid, metal hydroxide in the dispersant agent composition ([0018], line 11-15).

Mitsuo **does not teach** the use of metal salt of aliphatic carboxylic acid

However, Tokita **teaches** examples of the basic substance which may be used for the neutralization or the saponification of the melt kneaded product including alkaline metals and alkaline earth metals such as sodium, potassium, calcium etc.; oxide, hydroxide, and hydride of alkaline metals and alkaline earth metals such as sodium hydroxide, potassium hydroxide; and weak acid salt of alkaline metals and alkaline earth metals such as sodium acetate, potassium acetate, calcium acetate, etc. (Col. 8, line 37-58).

Therefore, it would have been obvious at time the invention was made to include the alkaline metal or alkaline earth metal salt of weak acids such as sodium acetate, calcium acetate of Tokita in the dispersant agent composition of Mitsuo due to the interchangeability of metal salt of aliphatic carboxylic acid and metal hydroxides in view of their functional equivalence as

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basic substance, motivated by a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Response to Arguments

Applicant's arguments, see page 4 and 5 in the Remarks, filed on March 22, 2006, with respect to claim 1 have been fully considered and are persuasive. The rejection of December 20, 2005 has been withdrawn. However, claims 1-11 are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

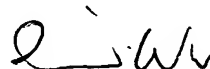
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu

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Date: June 1, 2006



DAVID W. WU

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700